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                 patent family display formats from INPADOCDB
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                 USPATOLD now available on STN
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                 CAS REGISTRY enhanced with additional experimental
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                 STN AnaVist, Version 2.0, now available with Derwent
                 World Patents Index
NEWS 10
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                 FORIS renamed to SOFIS
         SEP 13
                 INPADOCDB enhanced with monthly SDI frequency
NEWS 11
NEWS 12
         SEP 17
                 CA/CAplus enhanced with printed CA page images from
                 1967-1998
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                 CAplus coverage extended to include traditional medicine
                 patents
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                 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 15 OCT 02
                 CA/CAplus enhanced with pre-1907 records from Chemisches
                 Zentralblatt
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                 BEILSTEIN updated with new compounds
NEWS 17 NOV 15
                 Derwent Indian patent publication number format enhanced
                 WPIX enhanced with XML display format
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NEWS 19 NOV 30
                 ICSD reloaded with enhancements
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                 IMSDRUGCONF removed from database clusters and STN
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                 DGENE now includes more than 10 million sequences
NEWS 25 DEC 17
                 TOXCENTER enhanced with 2008 MeSH vocabulary in
                 MEDLINE segment
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                 MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
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                 CA/CAplus enhanced with new custom IPC display formats
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        DEC 17
                 STN Viewer enhanced with full-text patent content
                 from USPATOLD
NEWS 29
         JAN 02
                 STN pricing information for 2008 now available
NEWS 30
         JAN 16
                 CAS patent coverage enhanced to include exemplified
                 prophetic substances
NEWS EXPRESS
              19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2,
              CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
              AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.
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(OFF OR OFFS)

553387 VAPOR

73548 VAPORS

596621 VAPOR

(VAPOR OR VAPORS)

14223 DRYER

3244 DRYERS

15793 DRYER

(DRYER OR DRYERS)

272636 RESIDUAL

6439 RESIDUALS

277569 RESIDUAL

(RESIDUAL OR RESIDUALS)

1640826 GAS

542334 GASES

1830903 GAS

(GAS OR GASES)

```
7249 RESIDUAL GAS
                  (RESIDUAL (W) GAS)
         71573 TAIL
         13578 TAILS
         81501 TAIL
                  (TAIL OR TAILS)
       1640826 GAS
        542334 GASES
       1830903 GAS
                  (GAS OR GASES)
          2258 TAIL GAS
                  (TAIL (W) GAS)
         42433 GASIF?
             0 (OFF (1A) VAPOR) (S) DRYER (P) (RESIDUAL GAS OR TAIL GAS) (P)
L1
               GASIF?
=> s (off (la) gas or vapor) (s) dryer (p) (residual gas or tail gas) (p) gasif?
        353014 OFF
          2945 OFFS
        355375 OFF
                  (OFF OR OFFS)
       1640826 GAS
        542334 GASES
       1830903 GAS
                  (GAS OR GASES)
        553387 VAPOR
         73548 VAPORS
        596621 VAPOR
                  (VAPOR OR VAPORS)
         14223 DRYER
          3244 DRYERS
         15793 DRYER
                  (DRYER OR DRYERS)
        272636 RESIDUAL
          6439 RESIDUALS
        277569 RESIDUAL
                  (RESIDUAL OR RESIDUALS)
       1640826 GAS
        542334 GASES
       1830903 GAS
                  (GAS OR GASES)
          7249 RESIDUAL GAS
                  (RESIDUAL (W) GAS)
         71573 TAIL
         13578 TAILS
         81501 TAIL
                  (TAIL OR TAILS)
       1640826 GAS
        542334 GASES
       1830903 GAS
                  (GAS OR GASES)
          2258 TAIL GAS
                  (TAIL (W) GAS)
         42433 GASIF?
             0 (OFF (1A) GAS OR VAPOR) (S) DRYER (P) (RESIDUAL GAS OR TAIL GAS)
L2
                 (P) GASIF?
=> s (recycl? or return? or feed?)(s) (off (la) gas or vapor or tail gas or
residual gas) (s) gasif?
        192640 RECYCL?
        131883 RETURN?
        530647 FEED?
        353014 OFF
          2945 OFFS
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(OFF OR OFFS)
       1640826 GAS
        542334 GASES
       1830903 GAS
                  (GAS OR GASES)
        553387 VAPOR
         73548 VAPORS
        596621 VAPOR
                  (VAPOR OR VAPORS)
         71573 TAIL
         13578 TAILS
         81501 TAIL
                  (TAIL OR TAILS)
       1640826 GAS
        542334 GASES
       1830903 GAS
                  (GAS OR GASES)
          2258 TAIL GAS
                  (TAIL (W) GAS)
        272636 RESIDUAL
          6439 RESIDUALS
        277569 RESIDUAL
                  (RESIDUAL OR RESIDUALS)
       1640826 GAS
        542334 GASES
       1830903 GAS
                  (GAS OR GASES)
          7249 RESIDUAL GAS
                  (RESIDUAL (W) GAS)
         42433 GASIF?
L3
           107 (RECYCL? OR RETURN? OR FEED?)(S) (OFF (1A) GAS OR VAPOR OR TAIL
               GAS OR RESIDUAL GAS) (S) GASIF?
=> 13 and dryer
L3 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).
=> s 13 and dryer
         14223 DRYER
          3244 DRYERS
         15793 DRYER
                  (DRYER OR DRYERS)
L4
             0 L3 AND DRYER
=> s 13 and coal
        234986 COAL
         37634 COALS
        237076 COAL
                  (COAL OR COALS)
L5
            36 L3 AND COAL
=> s 15 and combust?
        278049 COMBUST?
1.6
             9 L5 AND COMBUST?
=> d 16 ibib ab tot
     ANSWER 1 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:
                         2007:97736 CAPLUS
DOCUMENT NUMBER:
                          146:255036
TITLE:
                         Clean and incremental combustion of solid
```

355375 OFF

fuels such as coal with municipal solid

wastes and biomass

INVENTOR(S):

PATENT ASSIGNEE(S):

Zhou, Kaigen Peop. Rep. China

SOURCE:

Faming Zhuanli Shenqing Gongkai Shuomingshu, 18pp.

CODEN: CNXXEV

DOCUMENT TYPE:

Patent

LANGUAGE:

Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATEN | T NO. | KIND | DATE | APPLICATION N | Ю. | DATE |
|------------|----------------|---------|---------------|----------------|-----------|------------|
| | | | | | | |
| CN 19 | 00590 | Α | 20070124 | CN 2006-10092 | 937 | 20060616 |
| PRIORITY A | PPLN. INFO.: | | | CN 2006-10092 | 937 | 20060616 |
| AB A com | bustion device | for so | lid fuels is | modified for | | |
| combu | stion of coal, | munici | pal solid was | ste, or biomas | s, | |
| and c | omprises a fue | l suppl | y device, a v | water-vapor in | troducing | |
| devic | e, a gasificat | ion com | bustion cham | per, a hearth, | _ | |
| | per water-cool | | | | | or movable |

fire grate, an air preheater, a primary and secondary air supply unit, and a high-temperature fuel gas feedback device. The gasificationcombustion chamber is quasi-sealed, and comprises a furnace arch, furnace walls or a furnace flue. The bottom of the gasificationcombustion chamber is the upper fire grate. The gasificationcombustion chamber and the hearth are separated by the fuel layer of the upper fire grate. The coal intake is insulated from the environment by the fuel layer of the fuel supply device. The water-vapor introducing device comprises a water-vapor nozzle or a plasma generator. Solid fuel is preheated in the gasification-combustion chamber, followed by drying, gasification, desulfurization and dechlorination, combustion of volatile substancs, and combustion of the

fuel layer. The high-temperature flue gas is introduced into the hearth, and the fuel was burned a second time, soot was removed, and water vapor is pumped into the gasification-combustion chamber to inhibit the formation of smoke and to realize clean combustion and incremental combustion.

L6 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:

2003:935012 CAPLUS

DOCUMENT NUMBER:

140:377753

TITLE:

Process and equipment for preparation of water gas in

fluidized bed externally installed with subsidiary

reactor

INVENTOR (S):

Liu, Dechang; Wang, Mingde; Chen, Hanping; Cheng,

PATENT ASSIGNEE(S):

Hengxin; Zhang, Shihong

Zhengzhou Yongtai Energy New Devices Co., Ltd., Peop. Rep. China; Huazhong University of Science and

Technology

SOURCE:

Faming Zhuanli Shenqing Gongkai Shuomingshu, 11 pp.

CODEN: CNXXEV

DOCUMENT TYPE:

Patent

LANGUAGE:

Chinese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

| PATENT NO. | KIND DA | DATE | APPLICATION NO. | DATE | |
|------------------------|---------|----------|-----------------|----------|--|
| | | | | | |
| CN 1385500 | Α | 20021218 | CN 2002-115830 | 20020512 | |
| PRIORITY APPLN. INFO.: | | | CN 2002-115830 | 20020512 | |

The process is characterized in fluidized-bed gasification furnace AB adopting intermittent gasification method, and in subsidiary reactor adopting intermittent way of air supply or gasification or continuous way of air supply and gasification. The process comprises allowing the

coal to combust fluidizedly in the fluidized-bed gasification furnace in the presence of air, separating high-temperature flue gas by a cyclone separator, allowing the unconverted powdery coal tar to flow into the subsidiary reactor and to combust with fluidized rate of 0.2- 0.6 m/s, recycling the flue gas and part of ash into the fluidized gasification furnace, discharging the flue after dust removal and cooling; aerating vapor into the fluidized bed gasification furnace to gasify the coal, and collecting coal gas after dust removal and cooling. The vapor can be mixed with air, and aerated into the subsidiary reactor to gasify the coal. The temperature of the subsidiary can be controlled by adjusting the amount of air and vapor. The operating temps. of gasification furnace and subsidiary reactor are 900-1500° and 900-1000°, resp. The equipment consists of fluidized-bed gasification furnace, cyclone separator, spiral stocker, hopper, subsidiary reactor, gasification chamber, wind chamber, ash discharge unit, baiting pipe, etc.

L6 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:379962 CAPLUS

DOCUMENT NUMBER: 125:38565

TITLE: Direct reduction of iron ores in melting-

gasification furnace with the off-

gas treated for recycling

INVENTOR(S): Carroll, Donegal Harold Victor

PATENT ASSIGNEE(S): S. Afr.

SOURCE: S. African, 15 pp.

CODEN: SFXXAB

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| APPLICATION NO. | DATE | |
|-----------------|----------------------------------|--|
| == | 19940817
19940817
19930803 | |
| | | |

AB Powdered Fe oxide ore is reduced to feed the Fe sponge to the melting furnace operated with coal gasification, and the CO-containing top gas from the reduction stage is treated to remove the CO2 and then is recycled to the reduction gas or combusted for addnl. heating. The hot top gas is optionally passed through a compressor, scrubber, and a sep. reduction stage before recycling, and is not vented to the atmospheric

L6 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1988:440657 CAPLUS

DOCUMENT NUMBER: 109:40657

TITLE: Underground gasification of coal

INVENTOR(S): Valukonis, G.; Smachnoi, N. I.; Bashkatov, M. I.;

Smaglii, E. V.

PATENT ASSIGNEE(S): Kommunar Mining-Metallurgical Institute, Stakhanovets,

USSR

SOURCE: U.S.S.R. From: Otkrytiya, Izobret. 1988, (16), 122.

CODEN: URXXAF

DOCUMENT TYPE: Patent LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| | | | | |
| SU 1392085 | A1 | 19880430 | SU 1986-4106745 | 19860804 |
| PRIORITY APPLN. INFO.: | | | SU 1986-4106745 | 19860804 |

AB Coal is gasified underground by drilling shafts to the productive zone, creating between the seams a channel, feeding an air-O stream to the combustion front, feeding to the combustion zone with water, withdrawing the vapor -gas mixture The quality of the vapor-gas mixture is increased while simultaneously the energy consumption is reduced by lowering the CH4 content, by mixing the water with Ni, Co or Fe or their mixture to form a hydrosol before feeding it to the combustion zone.

L6 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1987:216463 CAPLUS

DOCUMENT NUMBER: 106:216463

TITLE: Manufacture of ammonia or methanol PATENT ASSIGNEE(S): Foster Wheeler U.S.A. Corp., USA SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|------------|
| | | | | |
| JP 62052101 | Α | 19870306 | JP 1986-158887 | 19860708 |
| ZA 8604784 | A | 19870225 | ZA 1986-4784 | 19860627 |
| EP 217491 | A1 . | 19870408 | EP 1986-305138 | 19860702 |
| R: DE, FR, GB, | IT | | | |
| AU 8660397 | Α | 19870305 | AU 1986-60397 | 19860721 |
| ES 2001259 | A6 | 19880501 | ES 1986-1296 | 19860822 |
| CN 86105431 | Α | 19870318 | CN 1986-105431 | 19860827 |
| PRIORITY APPLN. INFO.: | | | US 1985-770140 | A 19850828 |

AB Oxidizing gas (e.g., air, O2) is fed at a feed rate for incomplete combustion of coal into a fluidized granular coal bed to generate synthesis gas containing H2, N2, and CH4 as principal components by coal gasification. The synthesis gas is then treated in a catalytic reactor to form NH3 from N2 and H2. Part of the off gas mainly containing CH4 is recycled to the fluidized bed and the combustion heat of the CH4 is utilized for coal gasification. The remaining off gas is used for MeOH manufacture if necessary.

L6 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1986:536948 CAPLUS

DOCUMENT NUMBER: 105:136948

ORIGINAL REFERENCE NO.: 105:22063a,22066a

TITLE: Processing crude condensates in the pressure

gasification of solid fuels

INVENTOR(S):
Melichar, Bohuslav

PATENT ASSIGNEE(S): Czech.

SOURCE: Czech., 6 pp.

CODEN: CZXXA9

DOCUMENT TYPE: Patent LANGUAGE: Czech

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
|------------------------|------|----------|-----------------|----------|--|
| | | | | | |
| CS 229868 | B1 | 19840716 | CS 1982-3939 | 19820528 | |
| PRIORITY APPLN. INFO.: | | | CS 1982-3939 | 19820528 | |

AB A process and flow sheet are given for the workup of condensate from the cooling of crude gas. The condensate is fractionated to give a light phase (A), containing tars and oils, and heavy phase (B), containing water, phenols, fatty acids, and NH3. Phase A is mixed with air or O and

combusted with feeding of phase B into the hot combustion products. The resulting mixture of gases and vapors is recycled into the pressure gasification step.

ANSWER 7 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

1986:482100 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 105:82100

ORIGINAL REFERENCE NO.: 105:13285a,13288a

TITLE: Integrated coal liquefaction, gasification

and electricity production

INVENTOR(S): Cheng, Shang I.

PATENT ASSIGNEE(S): USA

SOURCE: U.S., 7 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

| PATENT NO. | KIND DATE | DATE | APPLICATION NO. | DATE | |
|-------------------------|-----------|--------------|------------------|----------|--|
| | | | | | |
| US 4594140 | Α | 19860610 | US 1984-596614 | 19840404 | |
| PRIORITY APPLN. INFO.: | | | US 1984-596614 | 19840404 | |
| AB A conceptual process | s inted | grating coal | liquefaction and | | |

A conceptual process integrating coal liquefaction and coal gasification with power generation involves (1) gasification of (optionally) unconverted solids from the liquefaction and other desired fuels, (2) shift conversion of product gases to produce reactant gases for the liquefaction step, (3) liquefaction of coal (or methanation) to produce a liquid fuel (as a byproduct), (4) superheating of the liquefaction (or methanation) tail gas with byproduct high-pressure steam, (5) combustion of the superheated tail gas in a gas turbine for power generation, and (6) recycle of the waste gases (with steam) to the gasification step.

ANSWER 8 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN L6

ACCESSION NUMBER: 1977:472973 CAPLUS

DOCUMENT NUMBER: 87:72973

ORIGINAL REFERENCE NO.: 87:11575a,11578a

TITLE: Removal of phenols from waste water INVENTOR(S): Wiesner, Paul; Stoenner, Hans M.

PATENT ASSIGNEE(S): Metallgesellschaft A.-G., Fed. Rep. Ger.

SOURCE: Ger. Offen., 10 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | | DATE |
|------------------------|------|----------|-----------------|----|----------|
| | | | | | |
| DE 2527983 | A1 | 19770113 | DE 1975-2527983 | | 19750624 |
| ZA 7601504 | Α | 19770330 | ZA 1976-1504 | | 19760311 |
| US 4162902 | Α | 19790731 | US 1977-838429 | | 19770930 |
| PRIORITY APPLN. INFO.: | | | DE 1975-2527983 | Α | 19750624 |
| | | | US 1976-693040 | A1 | 19760604 |

Wastewater from coal gasification is extracted with a AB low-boiling organic solvent (e.g. iso-Pr20), the dissolved solvent in the raffinate removed together with most CO2 + H2S, and some NH3 by distillation under pressure, the vapors washed with small amount of cold raffinate under pressure, a portion of the solvent condensed, separated from the raffinate, and recycled. After pressure decrease, the remaining acidic gas containing CO2, H2S, solvent, NH3, and H2O is washed with cold raw phenol to remove NH3 and remaining solvent. The latter is

recovered and recycled. The partially purified raffinate from the pressure column is fed into a NH3-column where NH3 with the remaining CO2 and H2S are removed, cooled, and used for combustion.

L6 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1959:108140 CAPLUS

DOCUMENT NUMBER: 53:108140
ORIGINAL REFERENCE NO.: 53:19371b-d

TITLE: Pyrolysis and gasification of hydrocarbons

INVENTOR(S): Sweeney, Maxwell P.

PATENT ASSIGNEE(S): United Engineers & Constructors Inc.

DOCUMENT TYPE: Patent LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE
US 2884368 19590428 US 1956-566205 19560217

US 2884368

Hydrocarbons are pyrolyzed and (or) gasified by feeding them into a stream of hot gases and entrained finely-divided carbonaceous solids at 1100-1800°F., passing the mixture into a fluidized bed of carbonaceous solids, allowing the vapors to pass off, removing the solids, and splitting them into 2 streams. One portion is burned in a combustion zone to yield hot gases which are then mixed with the 2nd portion of carbonaceous solids for reheating and the gas-solids stream is then used as the reaction stream. The process is applicable to the production of liquid products and coke from petroleum residues and low-value gaseous hydrocarbons, in the gasification and carbonization of coal, lignite, and peat, and in petroleum refining.

WEST Search History

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DATE: Monday, January 21, 2008

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Name | Query | <u>Hit</u>
Count |
|-------|--------------------|--|---------------------|
| | DB=P | GPB, USPT, USOC, EPAB, JPAB, DWPI; THES=ASSIGNEE; PLUR=YES; OP=A | DJ |
| | L19 | recycl\$3 with (off near1 gas or vapor) same (residual gas or tail gas) same gasification | 5 |
| | L18 | residual gas with vapor with recycl\$3 with gasification | 0 |
| | L17 | L14 and recycl\$3 | 0 |
| | L16 | L14 and return\$3 | 0 |
| | L15 | L14 and recycl\$3 | 0 |
| | L14 | us 20020087037 | 2 |
| | L13 | vapor with dryer same (residual gas or tail gas)with gasif\$7 | 1 |
| | L12 | 19 and residual gas with gasification | 1 |
| | L11 | 19 and (vapor or off near1 gas) with dry\$3 with gasif\$7 | 1 |
| | L10 | coal and dryer and gasification and combustion and electrolysis and methanol | 7 |
| | L9 | coal and dry\$3 and gasification and combustion and electrolysis and methanol | 308 |
| | L8 | coal and dryer and gasification and combustion and electrolysis and (water near2 wash\$3 or water near3 spray\$3)and methanol | 0 |
| | L7 | coal and dryer and gasification and combustion and electrolysis and (water near2 wash\$3 or water near3 spray\$3)and methanol | 0 |
| | L6 | 15 not 13 | 6 |
| | L5 | L4 and electrolysis | 7 |
| | L4 | (dryer or drying or drier) same gasif\$7 same combust\$3 and (hydrocarbon or methanol) with (prepar\$5 or mak\$3 or synthesi\$4 or manufactur\$3 or produc\$4) | 153 |
| | L3 | L2 and gasif\$7 and combust\$3 and electrolysis | 2 |
| | L2 | liquid energy carrier | 49 |
| | DB=P | GPB, USPT; THES=ASSIGNEE; PLUR=YES; OP=ADJ | |
| | L1 | liquid energy carrier | 20 |

END OF SEARCH HISTORY